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ABSTRACT

This study describes an intensive 10-week teacher training program for minority group college graduates prior to teaching in the public schools. The Personal Orientation Inventory and the Minnesota Teacher Attitude Inventory were used as pre- and posttraining measures to assess attitudes and value change over the duration of the training program. The authors conclude that the training program appears to have changed the attitudes and values of the college graduates into ones more congruent with good teaching and self-actualization. Also the program seems to have been more successful with those trainees going into secondary rather than elementary education. (An eight-item bibliography and seven tables are included.) (PD)

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Attitude and Value Change in Minority Teacher-Trainees in an Intensive Teacher-Training Program[1]

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Kenneth A. Wolkon, Ph.D.
Associate Professor of Psychology

and

Cleveland O. Clarke, Ed.D.[2]
Professor of Education

Boston State College

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[2]Requests for reprints should be addressed to either author at Boston State College, 625 Huntington Ave., Boston, Mass. 02115.

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A number of minority group college graduates of wide regional distribution were trained in an intensive 10-week summer program to become teachers in a large urban school system. The program was organized into two distinct segments: a four week academic experience followed immediately by six weeks of student teaching in the Boston Public Schools summer school program. The academic program was conducted at Boston State College and taught by BSC faculty. The program of studies that the participants elected depended largely on their previous academic background. Generally for participants electing elementary education, the courses offered were Child Psychology, Reading in the Elementary School and Materials and Methods in the Elementary School. For secondary education, the courses included Adolescent Psychology and Materials and Methods in the Secondary School.

During the student teaching experience the supervision and daily seminar were conducted by Boston State College faculty and selected officials from the Boston Public Schools.

In an attempt to assess and analyse the effectiveness of the program it was decided that it would be most productive to compare the attitudes and values of the trainees before

and immediately after the termination of the program, with those of known teacher samples and also with those of mentally healthy people in general.

The basic approach used to assess the attitude of the trainees toward teaching was through the use of the Minnesota-Teacher Attitude Inventory or MTAI (Cook, Leeds, and Callis, 1951), an instrument designed to test the authoritarian attitudes of teachers. The basic assumption (borne out in the standardization of and subsequent research on the MTAI) is that non-authoritarian teachers are better teachers than are authoritarians.

The superior or non-authoritarian teacher is one who can establish and maintain harmonious relationships with his students, who works with students in a secure, cooperative, and trusting atmosphere of mutual respect and understanding; in general, he is one who runs a democratic, flexible, productive classroom in which there are common goals and a sense of group cohesiveness.

By contrast to the superior teacher, the inferior or authoritarian teacher is characterized by insecurity. He tries to hide his insecurity behind a wall of rigidity and imposed authority. His classroom tends to have an atmosphere of tension, frustration, distrust and hostility. Also, he tends to relate to his students more through subject-matter orientation than personal orientation.

Not too dissimilar to the concept of non-authoritarianism as just described relative to teachers is the concept of self-actualization as developed by Maslow (1954, 1962). Essentially, the self-actualizing person is one who is capable of utilizing whatever capabilities he has in a more complete or self-fulfilling way than the average person, and he is certainly more fully functioning than a neurotic who is bound up by his inhibitions, whatever they may be. For many psychotherapists, self-actualization serves as the goal of therapy. Most measures of personality and/or personal values have been developed on abnormal populations; Shostrom (1966), however, developed the Personal Orientation Inventory (POI) with the concepts of mental health and self-actualization in mind.

Dandes (1966) established that the greater the psychological health as measured by the POI, the greater the possession of attitudes and values characteristic of effective teaching as measured by the MTAI, the California F-scale, Rokeach's Dogmatism scale, and a liberalism-conservatism scale.

Knapp (1971) reports that Flanders, in a similar study, also using both the MTAI and the POI, found substantial positive correlation between the two tests and significant change on eight of the twelve POI scales after a sensitivity training program for the 129 elementary and secondary teachers.

A recent study by Uhes and Shybut (1971) reports that the POI is effective in identifying characteristics (psychological effectiveness or positive mental health) for selecting Peace Corps volunteers, a group very possibly similar to the trainees in question in the present study in that both groups are making themselves available for service to other human beings with the intent of aiding those others improve their lot in life. It was for these reasons that the POI was used in this study.

The purpose of the project at hand was to take minority group college graduates who had not been trained to teach and to prepare them in a ten-week period to teach in urban schools (Boston).

Method

In early June, 1972, the pre-test of the POI and the MTAI was administered to 32 trainees at Boston State College.

The POI was administered first after a brief assurance that the purpose was to evaluate the program, not the individual, and that their results would be kept confidential. As each individual completed the POI, he was given the MTAI. No time limits were given and no pressure of any sort was exerted to hurry them or to influence them. Any question they might have had was answered quickly.

The identical procedure was followed in August for 32, trainees at the conclusion of the program. The only difference in procedures was that an anonymous questionnaire was also administered to determine how the trainees perceived and evaluated the program.

Of the original 32 trainees, four left the program or were not available for the post-test and four other trainees had been added to the program while it was in progress. The final sample size reported on here for pre-test vs. post-test comparisons is 28. The composite scores when only the pre-test or the post-test reports are considered include all those tested for that particular session(s),

thereby making the separate pre-test and post-test composites each having, coincidentally, 32 trainees.

In addition to pre- and post-test comparisons for all trainees, like comparisons were made for the two subgroups of elementary and secondary teacher trainees.

The MTAI has a range of possible scores from +150 to -150 with the understanding that the higher one's score, the more his attitudes would coincide with effective teachers. Although there are no "right" or "wrong" answers in the traditional sense of those words, the scoring formula involves a "rights" key and a "wrongs" key, both of which are keyed to answers given by teachers already rated for effectiveness. The single figure score is the remainder of R-W.

Because of the date of the standardization of the MTAI (Cook, et al., 1951), and because of the reported changes in training and in attitudes of teachers over the intervening years, no reference is made to any norms. Instead, since the basic concept upon which the MTAI is established still holds, the test is used in the pre-test to establish a base-line for the group from which any change over the training period could be evaluated.

The POI (Shostrom, 1966) consists of 150 forced-choice items of comparative value and behavior judgements. The

scoring is done in such a way that there are two major scales and ten subscales each measuring a different component of the self-actualizing pattern of values and behavior. Raw scores for each scale are converted to standard scores and plotted as a profile with self-actualizing people scoring higher on the profile than non-self-actualizing people.

Each of the two major scales of the POI is composed of two components which can be used as ratios to serve as general indices of personal functioning. The time ratio is composed of Time Competence (TC) and Time Incompetence (TI) components and measures the person's time orientation. Self-actualizing persons tend to be more present-oriented or competent. The other major scale is presented as a support ratio incorporating Inner Directed (I) and Other Directed (O) components with the knowledge that self-actualizing persons tend to be more Inner Directed.

The ten subscales are as follows:

Self-Actualizing Value (SAV), an affirmation of a primary value of self-actualizing people;

Existentiality (Ex), the ability to react without rigid adherence to principles;

Feeling Reactivity (Fr), a sensitivity to one's own needs and feelings;

Spontaneity (S), the freedom to be oneself;

Self Regard (Sr), an affirmation of self because of worth or strength;

Self Acceptance (Sa), acceptance of self in spite of weaknesses or deficiencies;

Nature of Man (Nc), the degree of the constructive view of the nature of man, masculinity, femininity;

Synergy (Sy), the ability to see the opposites of life as meaningfully related or to transcend dichotomies;

Acceptance of Aggression (A), the ability to accept one's natural aggressiveness as opposed to defensiveness, denial, and repression of aggression;

Capacity for Intimate Contact (C), the ability to develop intimate relationships with other human beings, unencumbered by expectations and obligations.

(These descriptions are adapted from Shostrom, 1966, p. 6)

Results

The MTAI yielded some rather mixed implications. From the 32 trainees at the pre-test sessions, a mean score of 39.44 was obtained with a range from 83 to -12, with only two trainees obtaining minus scores. On the post-test, 32 trainees (only 28 of whom had also taken the pre-test) produced a mean score of 34.84 with a range from 77 to -50. One's immediate impression is that the program had a somewhat negative effect, but on closer inspection, it is both noted and noteworthy that of the four people to enter the program after the initial testing, three obtained negative scores (-19, -24, and -50) thereby distorting the statistics somewhat.

When one looks at the MTAI scores for only those 28 who participated in both testing sessions, the mean goes up from 37.03 to 41.07 which is a change in the desired direction, although it is not statistically significant. Exactly half (14) increased and the other half (14) reduced their scores after the ten-week period. The mean change for all trainees was an increase of 3.04 points with a range from a 49 point increase to a 23 point decrease. The elementary group's change ranged from +30 to -23; the secondary group's, from +49 to -15.

When the trainees are considered as two subgroups of elementary and secondary trainees, a split is found with the secondary increasing from a mean of 36.40 to 45.13 and the elementary decreasing from a mean of 39.92 to 36.38. Neither change reaches statistical significance despite the implication that the secondary group improved their attitudes while the elementary group's attitudes deteriorated. The MTAI results are summarized in Table 1.

Insert Table 1 about here

On the POI pre-test, four trainees' scores had to be excluded because of the excessive number of unanswered questions (which, for several, meant questions for which both alternatives were chosen, for all practical purposes the same as no answer). According to the POI manual (Shostrom, 1966, p. 7), more than 15 such responses would render the profile invalid. Of the four excluded, one, who had 67 items with no choice, was dropped from the program prior to the post-test. The other three (with 30, 24, and 20 unanswered items) concluded the training program and were included in the post-test (with no items left unanswered by the first two and nine unanswered by the last one). Although nothing conclusive can be stated from this observation, one interpretation for so many unanswered items could be defensiveness or excessive guardedness about one's self. That one was considered

unfit for completion of the program (whatever the administrative reason for dropping him) and that the other three "dropped their guard" so substantially may be indicative of the effectiveness of the training for the three. No post-test profiles were invalid on the basis of unanswered questions.

The composite profile for the 28 acceptable pre-tests (drawn from Table 2) revealed a pattern hovering very much around standard score 50, as one would expect. By visual inspection of the composite profile, the group appears to have an elevated Sr score and depressed Nc and Sy scores. On the composite (N=32) post-test profile (also drawn from Table 2), all scales but TI and SAV moved in the desired direction with apparently dramatic changes in Ex, Fr, A and C in the desired direction and TI in the undesirable.

Insert Table 2 about here

When one looks at only those 28 trainees for whom there are pre- and post-test scores, the composite profile drawn from Table 3 reveals that not only all of the scores moved in the desired directions but that 8 of 14 scales changed significantly since the inception of the training period.

Insert Table 3 about here

With the subgroup training for positions in secondary schools (N=15), as can be seen from Table 4, all scores moved in the desired directions (SAV scores were identical on pre- and post-tests) with six of the fourteen scales showing significant change in the desired directions and no scale even intimating movement in an undesirable direction.

Although the profile of means indicates a basically normal personality pattern at the beginning of the program, the group seems to have added considerably to the dimensions of self-awareness and self-reliance. The changes indicate that they should be more effective in both personal and interpersonal areas of life and in the teaching situation.

Insert Table 4 about here

The trainees for elementary school positions (N=13) do not show such strong evidence of change. Only two scales (Ex and C) show significant change and two other scales show movement, albeit both barely perceptible, in undesirable directions (Table 5). The elementary group, then, did show some change over the course of the training, although that change is not as dramatic as that displayed by the secondary group.

Insert Table 5 about here

Generally, one could not say their pre-test profile approaches the self-actualizing pattern. The pre-test pattern of the elementary trainees indicates some lack of harmony in their perception of life and a somewhat pessimistic view of man. Along with these negative elements, there is displayed, as in the secondary group's pre-test profile, an elevated self-regard with a low (relative to Sr) but acceptable Self-Acceptance score. Although the same general pattern prevails also in the post-test, it is a less extreme pattern.

Summing up the POI results, it can be stated that significant changes occurred over the 10-week training period, more so for the secondary than for the elementary trainees. The trainees, as a group, became, over the 10-week period, more independent, flexible, spontaneous, and both sensitive toward and accepting of their own and others' feelings and weaknesses.

The correlation matrices of the MTAI and the POI scales imply that the changes occurring over the course of training were favorable. The pre-test matrix (Table 6) shows a significant correlation of the MTAI with Self-acceptance and Existentiality positively and negatively with Other-directedness and Nature of Man. Of these, the only one that does not seem to fit favorably is the Nc. At the end of the training period (Table 7), the trainees' Nc score no longer correlated significantly with the MTAI. The other

correlations significant in the pre-test became more significant. In addition, Inner-directedness, Spontaneity, and Capacity for Intimate Contact related significantly to their teacher attitudes as assessed by the MTAI.

Insert Tables 6 and 7 about here

The questionnaire revealed that the elementary and secondary subgroups perceived their respective experiences in the program very differently, with the elementary group seeing it on the whole much more favorably than the secondary group.

Discussion

The results indicate that the program was successful in that the qualities assumed necessary for successful interpersonal relationships, and thereby also for teaching, moved in desirable directions. Not all the change was statistically significant, but much was very interesting. Of special interest was the greater gain made by the secondary education group than by the elementary in both sets of tests despite an announced dissatisfaction on the part of the secondary group and an assumed satisfaction within the elementary group.

One might look at this observation and draw several conclusions. It could be that the dissatisfaction reported by the secondary education group is indicative of a growth process in that they were challenged in their value systems and forced to change them, a process that is painful and therefore resisted. It could be that the elementary group, by virtue of its selection of that area, came into the program with attitudes and values already more congruent with those of "teachers", thereby decreasing the amount of change necessary. This latter point might also account for the difference between the two groups in apparent satisfaction with a program designed to train teachers. Going along still further on this point, one would assume that the two groups

might have been very different upon entering the program, an assumption not supported by the data.

The composite POI profiles themselves are not dissimilar from the general pattern reported for college juniors and seniors (Shostrom, 1965, p. 12), a similarity not unexpected since a large number of the trainees are recent college graduates. Of particular interest is the pattern of high self-regard (Sr) and relatively low self-acceptance (Sa), indicative especially on the pre-test of somewhat unrealistic, or perhaps inadequately tested, self-perceptions. The elevated Sr may be in part peculiar to this sample, an all-black sample in an age of increased black self-awareness, black pride, etc. Perhaps this phenomenon is exaggerated in this sample because nearly all had graduated from predominantly white colleges. This same black consciousness could account for the low Sa (relative to Sr) on the pre-test. By the time of the post-test, a narrowing of the Sr - Sa gap, and whatever self-defensiveness represented thereby, occurred.

Also of interest in the profiles is the relatively low view of man (Nc) and of the unity of life (Sy). Although this is also indicated in the college junior and senior sample, it is especially apparent in the elementary trainees, i.e., a tendency to see man as essentially evil and to see the "opposites of life as antagonistic". Perhaps the Nc

score could reflect a religious view prevalent in Western thought, but that would not account for the lack of harmony perceived by the elementary group, especially in the pre-test. (Again, it should be pointed out that changes occurred by the time of the post-test to make these scores appear less extreme.)

One interesting point of departure from the college upperclassmen sample profile is the relative elevation of the C scale (Capacity for Intimate Contact). Despite a rather cynical or untrusting view of mankind (Nc), these trainees not only came into the program with an ability to establish close relationships but also increased that ability significantly. This may not be as self-contradictory as it appears at first glance: it may mean that despite a somewhat unfavorable view of mankind in general, they are selective in their relationships and, once exercising their selectivity, they then feel free to establish valued friendships. As with the Sr-Sa defensiveness possibility already mentioned, this may be due in part to racial factors. Perhaps this is only reflective of the social phenomenon that blacks and other minorities feel distrustful of whites in our society and exercise their utmost discretion in selecting those in whom to place their trust. Generally, a high level of defensive selectivity seems to be at work in the establishment of close relationships.

Although nothing outstanding appears in the MTAI results, there are some interesting comparisons to be drawn between the present sample and other known samples. The norms for experienced teachers presented by Cook, et al. (1951), in the manual, although now more than twenty years old, imply that the present sample will have attitudes similar to or better than experienced teachers.

This is especially so for the secondary teachers. The Cook, et al., sample of experienced secondary school teachers of academic subjects with four years training produced a mean of 24.7 with an S.D. of 40.6, a score considerably lower and with greater variability than the present sample, even under the pre-test condition.

The elementary group resembles more the experienced group Cook, et al., found in small systems (20 or fewer elementary teachers) than larger systems. The present trainees are more similar to experienced elementary teachers with only two years training than they are to those with four years. The present sample did, however, drop its MTAI mean score from the pre-test to the post-test condition, albeit non-significantly.

Perhaps a more important comparison group for this study is that provided by Evans (1970) from a study of teachers in the Fort Worth (Texas) Public Schools. It was his finding that middle-school teachers had significantly

higher scores on the MTAI than did junior high school teachers and that second year middle-school teachers scored significantly higher than did those in their first year. There was no significant difference between the first year middle-school teachers and the junior high school teachers. What makes Evans' research so interesting in regard to the present study is that the mean score for his best group (second year middle-school teachers) was 16, a full 20 points lower than the lowest mean obtained by either group under either condition in this study. Evans' range was +95 to -96, considerably greater than the present group's range as reported in Table 1.

The possibility offered earlier of the elementary group's attitudes and values being more congruent with those of experienced teachers from the start of the program might also come into play when one considers the different experiences in the training program that the two groups reported. The elementary group perceived the program in a much better light than did the secondary. Perhaps one of the sources of difference has to do with a perception of the needs of the age groups they would be serving, that the younger children would need basic skills but the adolescents would need more in the way of direction, pride, and compensatory devices to enable them to succeed in a white, middle-class world.

Regardless of whether or not this last possibility is the case, the nature of the criticisms of the secondary education preparation, both academic and supervisory, would lead one to expect that it is highly probable.

Summary and conclusions. The training program appears to have been successful in taking in college graduates who had not had any teacher-training and changing their attitudes and values into directions more congruent with both good teaching and self-actualization, although the purpose was much more a crash program to train educated but untrained personnel to become effective teachers in urban schools. The program appears to have been more successful with those trainees going into secondary than into elementary education. Change was determined by a pre-test vs. post-test comparison on the Minnesota Teacher Attitude Inventory and the Personal Orientation Inventory.

REFERENCES

Cook, W.W., Leeds, C.H., and Callis, R. Minnesota Teacher Attitude Inventory Manual. New York: The Psychological Corp., 1951.

Dandes, H.M. Psychological health and teaching effectiveness. Journal of Teacher Education, 1966, 17, 301-306.

Evans, C.L. Short-term assessment of the Middle-School Plan. Fort Worth, Texas: Fort Worth Independent School District, 1970.

Knapp, R.R. The measurement of self-actualization and its theoretical implications: a report of research based on the Personal Orientation Inventory (POI). San Diego: Educational and Industrial Testing Service, 1971.

Maslow, A.H. Motivation and personality. New York: Harper, 1954.

Maslow, A.H. Toward a psychology of being. New York: Van Nostrand, 1962.

Shostrom, E.L. Manual for the Personal Orientation Inventory. San Diego: Educational and Industrial Testing Service, 1966.

Uhes, M.J. and Shybut, J. Personal Orientation Inventory as a predictor of success in Peace Corps training. Journal of Applied Psychology, 1971, 55, 498-499.

Table 1

Means, Standard Deviations and Ranges for STAI

		Pre - Test			Post - Test			
Group	N	Mean	SD	Range	Mean	SD	Range	Range of Change
All Trainees	32	39.44	25.55	83 to -12	-	-	-	-
All Trainees	32	-	-	-	34.84	31.31	77 to -50	-
Those present for both sessions	28	38.03	25.34	83 to -12	41.07	23.73	77 to -7	49 to -23
Elementary Group	13	39.92	24.55	70 to -11	36.38	25.55	70 to -7	30 to -23
Secondary Group	15	36.40	26.71	83 to -12	45.13	22.09	77 to 12	49 to -15

No significant differences are present in this table.

Table 2

POI Means and Standard Deviations
for Entire Non-Comparable Groups

	Pre-test (N=28)		Post-test (N=32)	
Scale	Mean	SD	Mean	SD
TI*	5.04	3.10	9.62	2.46
TC	17.68	2.97	17.96	2.28
O*	36.93	8.30	32.50	14.14
I	88.11	8.55	91.62	10.38
SAV	20.64	2.71	20.34	3.18
Ex	20.79	3.63	22.40	4.63
Fr	16.29	3.03	17.34	2.47
S	12.39	2.11	12.81	2.15
Sr	13.46	1.62	13.56	1.95
Sa	16.68	3.29	17.28	2.94
Nc	11.75	2.01	12.00	2.05
Sy	6.82	1.25	7.18	1.20
A	16.79	2.86	18.12	3.02
C	19.43	2.92	21.34	2.29

*TI and O are the only scales for which lower scores are more desirable.

Table 3

POI Means, Standard Deviations and Tests of Significance (Entire Group)

	Pre-test		Post-test			
Scale	Mean	SD	Mean	SD	t	p*
TI**	5.00	2.89	4.61	2.48	0.975	n.s.
TC	17.53	2.86	18.14	2.30	1.471	n.s.
O**	36.32	8.12	32.28	10.97	2.734	<.02
I	87.25	9.72	92.82	10.17	3.448	<.01
SAV	20.28	3.17	20.61	3.12	0.603	n.s.
Ex	20.28	3.95	22.86	4.45	4.145	<.001
Fr	15.89	3.27	17.43	2.49	3.807	<.001
S	12.00	2.34	13.03	1.91	2.891	<.01
Sr	13.64	1.34	13.71	1.96	0.238	n.s.
Sa	16.64	3.30	17.78	2.70	2.428	<.05
Nc	11.57	2.20	12.11	2.08	1.206	n.s.
Sy	6.67	1.36	7.14	1.27	1.994	n.s.
A	16.75	2.70	18.03	3.14	2.746	<.02
C	19.35	3.05	21.57	2.20	4.554	<.001

* d.f.=27

** TI and O are the only scales for which downward movement is desirable.

Table 4

POI Means, Standard Deviations and Tests of Significance
(Secondary Group Only)

	Pre-Test		Post-Test			
Scale	Mean	SD	Mean	SD	t	p*
TI**	5.26	3.75	4.46	2.64	1.344	n.s.
TC	17.46	3.50	18.20	2.24	1.227	n.s.
O**	37.60	9.78	31.26	12.33	3.254	<.01
I	86.86	9.16	93.06	11.15	2.854	<.02
SAV	21.20	2.65	21.20	3.05	0.000	-
Ex	20.46	3.70	23.13	4.17	3.957	<.01
Fr	15.73	3.45	17.86	2.55	4.298	<.001
S	11.86	1.99	13.06	1.98	2.134	n.s.
Sr	13.33	1.29	13.53	2.09	0.400	n.s.
Sa	16.13	3.71	17.33	3.15	2.043	n.s.
Nc	11.73	2.15	12.20	2.21	0.777	n.s.
Sy	7.13	1.12	7.40	1.24	0.806	n.s.
A	16.60	2.19	18.53	2.79	3.649	<.01
C	19.06	3.21	21.46	2.26	3.674	<.01

* d.f.=14
**TI and O are the only scales for which downward movement is desirable.

Table 5

POI Means, Standard Deviations and Tests of Significance (Elementary Group Only)

	Pre-test		Post-test			
Scale	Mean	SD	Mean	SD	t	p*
TI**	4.69	1.49	4.76	2.38	0.146	n.s.
TC	17.61	2.02	18.07	2.46	0.790	n.s.
O**	34.84	5.68	33.46	9.50	0.662	n.s.
I	87.69	10.68	92.53	9.34	1.943	n.s.
SAV	19.23	3.49	19.92	3.17	1.058	n.s.
Ex	20.07	4.36	22.53	4.90	2.200	<.05
Fr	16.07	3.17	16.92	2.39	1.367	n.s.
S	12.15	2.76	13.00	1.91	1.939	n.s.
Sr	14.00	1.35	13.92	1.84	0.248	n.s.
Sa	17.23	2.77	18.30	2.05	1.380	n.s.
Nc	11.38	2.32	12.00	2.00	0.899	n.s.
Sy	6.15	1.46	6.84	1.28	2.111	n.s.
A	16.92	3.27	17.46	3.52	0.696	n.s.
C	19.69	2.92	21.69	2.21	2.662	<.05

* d.f. = 12.

** TI and O are the only scales for which downward movement is desirable.

Table 6

Correlation Matrix (Pre-Test)

	C	A	Sy	Nc	Sa	Sr	S	Fr	Ex	SAV	I	O	TC	TI
MTAI	.19	.10	.14	-.37*	.38*	.00	.22	.33	.52***	-.16	.32	-.37*	.11	-.11
TI	-.53***	-.49***	.15	.22	-.42**	-.63****	-.27	-.46***	-.14	-.16	-.42**	.46***	-.99****	
TC	.56****	.48***	-.08	-.21	.40*	.64****	.32	.48***	.19	.24	.45***	-.46***		
O	-.77****	-.67****	-.25	.07	-.67****	-.38*	-.68****	-.78****	-.69****	-.34	-.94****			
I	.85****	.74****	.25	-.04	.65****	.47***	.67****	.82****	.68****	.39*				
SAV	.27	.24	.64****	.46***	-.28	.13	.28	.25	.36*					
Ex	.58****	.19	.39	-.05	.37	.08	.56****	.45***						
Fr	.72****	.73****	.05	-.14	.45***	.48***	.57****							
S	.55***	.37*	.17	-.19	.48***	.16								
Sr	.41**	.59****	-.16	-.10	.44**									
Sa	.57****	.52***	-.17	-.43**										
Nc	-.17	-.20	.44**											
Sy	.17	-.01												
A	.63****													

* < .05 ** < .02 *** < .01 **** < .001 d.f.=27

Table 7

Correlation Matrix (Post-Test)

	C	A	Sy	Nc	Sa	Sr	S	Fr	Ex	SAV	I	O	TC	TI
[illegible]	**** .46	.10	.26	-.06	*** .49	.05	*** .53	.17	**** .56	.17	*** .43	** -.41	.27	-.22
TI	**** -.66	*** -.34	-.11	.01	*** -.49	**** -.57	**** -.55	**** -.67	**** -.57	*** -.44	**** -.67	**** .73	**** -.97	
[illegible]	**** .69	**** .56	[illegible]	-.01	*** .53	**** .67	**** .61	**** .66	**** .59	*** .50	**** .72	**** -.72		
[illegible]	**** -.74	**** -.68	**** -.56	-.09	**** -.67	**** -.53	**** -.80	**** -.80	**** -.77	**** -.69	**** -.93			
[illegible]	**** .74	**** .67	**** .52	.23	**** .74	**** .61	**** .82	**** .73	**** .76	**** .75				
[illegible]	** .44	**** .52	**** [illegible]	.38	[illegible]	**** [illegible]	**** .58	**** .64	*** .47					
[illegible]	**** .71	** .41	*** .43	.02	**** .56	[illegible]	**** .78	*** .53						
[illegible]	**** .59	**** .78	*** .50	.08	* .40	* .39	**** .57							
[illegible]	**** .73	** .44	*** .49	.10	*** .55	[illegible]								
[illegible]	* .36	* .37	.15	.24	** .43									
[illegible]	**** .61	**** .48	.11	-.11										
Nc	.03	.05	.22											
Sy	.33	** .44												
A	** .43													

* <.05 ** <.02 *** <.01 **** <.001 d.f.=31